

**REMARKS**

This responses to the Office Action mailed on April 28, 2004.

Claims 1, 2, 16-21, 24, 26, 30 and 42 are amended, claims 43-46 are cancelled, and no new claims have been added; as a result, claims 1-3, 16-24, 26, 28, 30-33 and 42 are now pending in this application.

**Finality of Office Action**

Applicant requests that the examiner reconsider the finality of the Office Action mailed April 28, 2004. The standard for making a final rejection on a first action is set forth in MPEP Section 706.07(b), which states:

The claims of a new application may be finally rejected in the first Office action in those situations where (A) the new application is a continuing application of, or a substitute for, an earlier application, and (B) all claims of the new application (1) are drawn to the same invention claimed in the earlier application, and (2) would have been properly finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application.

Applicant respectfully submits that the finality of the present Office Action is premature for two reasons. First, this is the first Office Action in this continuing application and this application includes new claims 42-46 which were not previously examined. Second, the subject matter of claims 1, 3, and 16-21 was rejected on new grounds not presented in any previous Office Action and so was not grounds of record for finally rejecting claims 1, 3, and 16-21.

The Office Action states on page 2 that “throughout the claims” and “e.g. claims 1” the meaning of the expressions “m 1” and “m k” is unclear. Applicant respectfully submits that this grounds for rejection of claims containing the expressions “m 1” and “m k” are not of record in any previous Office Action. Therefore, it would not have been proper to *finally* reject claims 1-2, 16, 18-21, 26, 30 or 42, which contain one or both of the expressions “m 1” or “m k,” on this grounds in the next Office Action.

The Office Action on page 2 states, “[C]laim 1, lines 8-9 are indefinite because how can one generate ‘each at least one of?’” Applicant respectfully submits this grounds for rejection of claim 1 was not of record in any previous Office Action. Therefore, it would not have been proper to *finally* reject claim 1 on this grounds in the next Office Action.

The Office Action on page 2 states, “Also in claim 1 the EXOR logic, line 10, the AND logic, line 12, the EXOR logic, line 13 and the plurality of EXOR logic units, line 18, all fails to be clearly related to the logic circuit of lines 7-9 and to what disclose structure to each of these elements correspond respectively? Claims 16 and 18-21 contain deficiencies similar to claim 1.” Applicant respectfully submits that these grounds for rejection of claims 1, 16 and 18-21 was not of record in any previous Office Action. Therefore, it would not have been proper to *finally* reject claims 1, 16 or 18-21 on this grounds in the next Office Action.

With regards to claim 3, the Office Action states, “the phrase ‘said elementary OR symmetric function logic’ lacks clear antecedent basis.” Applicant respectfully submits that this grounds for rejection of claim 3 was not of record in any previous Office Action. Therefore, it would not have been proper to *finally* reject claim 3 on this grounds in the next Office Action.

Claims 2-3 are dependent on claim 1. Claims 22-24, 26, 28, and 30-33 are dependent on claim 21. For reasons analogous to those stated above with regards to claims 1 and 21,. Applicant submits that it would not have bee proper to *finally* reject claims 2-3 and 22-24, 26, 28 and 30-33 on the grounds and art of record in the next Office Action.

With regards to claim 42, the Office Action states that the claim is “mis-descriptive.” With regards to claims 43-46, the Office Action states, “Lines 9-15 of claim 43 are the recitation of function without the recitation of the structure that is necessary to perform the function and to what disclosed structure do the plurality of EXOR logic means correspond? Claims 44-46 contain deficiencies similar to claim 43.” As stated above, Applicant submits that claims 42-46 were newly added, and therefore were not previously examined. Hence, the grounds for the rejections of claims 42 and claims 43-46 were not of record in any previous Office Action. Therefore, it would not have been proper to *finally* reject claim 42 or claims 43-46 on the grounds and art of record in the next Office Action.

Applicant respectfully submits that because new grounds were used in rejecting the subject matter recited in claims 1-3, 16-24, 26, 28, 30-33 and 42-46, and because claims 42-46

were previously not examined, claims 1-3, 16-24, 26, 28, 30-33 and 42-46 could not have been properly finally rejected on the grounds and art of record in the next Office action if the claims had been entered in the earlier application. Accordingly, Applicant requests that the finality of the Office Action be withdrawn, and that this response be treated as a response to a first, non-final, Office Action.

Priority Document

The Office Action indicates that the certified copy of the GB priority document is not in the USPTO file and requests that applicant file a certified copy. As stated in the Office Action on page 3, “[A]pplicant’s amendment of 17 February 2004 refers to an enclosed copy of the USPTO date stamped returned postcard.” Applicant respectfully submits that the requested document was mailed to the USPTO on December 17, 2001. The postcard referred to by the Office Action is the return postcard date stamped January 18, 2002, acknowledging receipt by the USPTO of the requested document. A photocopy of the postcard is included with this response. The Office Action fails to acknowledge receipt of the requested priority document, but merely states that “a copy does not appear in the file.”

Applicant submits that compliance with the requirements of 35 U.S.C. § 119 with regards to this matter have been met, and therefore Applicant should not be burdened with the added expense and effort of duplicating this procedure. Therefore, Applicant respectfully requests that the USPTO action indicate that the priority document was received by the USPTO, and further that the request for Applicant to re-submit a certified copy of Great Britain Application No. 0019287.2 be withdrawn.

§112 Rejection of the Claims

Claims 1-3, 16-24, 26, 28, 30-33 and 42-46 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 1, 2, 16-21, 24, 26, 30 and 42 have been amended to more particularly point out and distinctly claim the subject matter. In particular the physical structure of the logic components is now claimed rather than the function of the logic circuit. It is thus submitted that the objections raised by the examiner have been traversed.

The expressions "m 1" and "m k" in claim 1 have been corrected to "m greater than or equal to 1" and "m greater than or equal to k". The same amendment has been made in claims 16, 18-21, 26 and 30 where one or both of these expressions appeared in the respective claim.

In lines 8-9 of claim 1, the word "each" has been deleted from "each at least one of" to improve the clarity of the claim.

In lines 7-10, 12, 13 and 18 of claim 1, the claim has been amended to clarify that the logic circuit comprises elementary EXOR symmetric function logic for generating a logic circuit output, and that elementary EXOR symmetric function logic is built up of EXOR logic units.

The definition of elementary EXOR symmetric function logic has been amended to clarify that, in the case where the set size k is equal to the total number of inputs, AND logic is also a type of elementary EXOR symmetric function logic. This situation is already implicitly covered by the claim. There is only one possible set of inputs when the set size k is equal to the total number of inputs. Therefore, there is no need for an EXOR logic gate with its input connected to the output of a single AND gate, because the final output will always take the same value as the output of the AND gate.

Claims 16 and 18-21 have been amended in a similar way to claim 1.

Lines 1-3 of claim 2 have been amended to recite the structure, which is the elementary OR symmetric function logic.

In line 3 of claim 3, the phrase "elementary OR symmetric function logic" no longer lacks an antecedent basis because the phrase is now included in claim 2, and claims 3 is dependent on claim 2.

In the last 7 lines of claim 42, the words "sets of high inputs" have been amended to "sets of inputs having all high binary inputs" to clarify the claim. The structure of the first EXOR logic corresponds to the EXOR logic gates in figure 7, and the structure of the second EXOR logic corresponds to the EXOR logic gate in figure 9.

Claims 43-46 have been cancelled. Therefore, rejection of claims 43-46 is moot.

The Applicant respectfully submits claims 1-3, 16-24, 26, 28, 30-33 and 42, as amended, comply with 35 U.S.C. §112, second paragraph, and therefore respectfully request that the Examiner reconsider and withdraw the objections and allow these claims.

Allowable Subject Matter

Claims 1-3, 16-24, 26, 28, 30-33 and 42-46 were indicated to be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. §112 set forth in the Office Action. Applicant believes that claims 1-3, 16-24, 26, 28, 30-33 and 42, as amended, comply with the requirements of 35 U.S.C. §112. Therefore, Applicant respectfully requests allowance of claims 1-3, 16-24, 26, 28, 30-33 and 42.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (612) 349-9592 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,  
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 28th day of September, 2004.

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PATRICIA A. HULTMAN

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Name



Signature